

Notice of Allowability

Application No.

10/811,572

Examiner

James M. Mitchell

Applicant(s)

DETRY ET AL.

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/20/2006.
2. ☒ The allowed claim(s) is/are 1,4-14,17-19,30,32,33 and 35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

This office action is in response to applicant's remarks filed July 20, 2006.

Restrictions

Based on the authorized examiner's amendment, the independent claims are directed to an allowable subject matter. Pursuant to the procedures set forth in MPEP § 821.04, claims previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, the restriction requirement as set forth in the Office action mailed on March 28, 2005 is hereby withdrawn. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claims including all the limitations of an allowable product claim or rejoined process claim are presented in a continuation or divisional application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided

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by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Juri Schiffman on August 1, 2006 to over the prior art¹.

The application will be amended as follows:

CLAIMS

Cancel claims 2, 3, 15, 16, 34 and 45.

On page 1 of specification, line 2 of the first paragraph following Title of application, delete "co-pending U.S. Patent Application serial No. 10/232,269" and insert - - U.S. Patent No. 6,744,114- -.

In claim 1, line 7 after "signal" insert - - by doping an area of the pillar--, and in line 11 after "second wafer" insert- - ; wherein an electronic component comprising an inductor is on the second wafer and electrically connected to the contact pad on the first wafer via at least one of the pillars--.

In claim 4, line 1 after "claim" delete "3" and insert --1--.

In claim 5, line 1 after "claim" delete "3" and insert --1--.

In claim 6, line 1 after "claim" delete "3" and insert --1--.

In claim 7, line 1 after "claim" delete "2" and insert --1--.

In claim 8, line 1 after "claim" delete "2" and insert --1--.

In claim 9, line 1 after "claim" delete "2" and insert --1--.

In claim 10, line 1 after "claim" delete "2" and insert --1--.

In claim 13, line 1 after "claim" delete "2" and insert --1--.

¹The Final rejection mailed March 22, 2006 indicated that certain claims were objected to if they overcame a 112 rejection. Upon review of the claims, no 112 rejections needed to be applied.

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In claim 30, Line 8 after "signal" insert - -by doping an area of the pillar--, and in line 9 after "device" insert- - comprising an inductor--.

In claim 32, line 9 after "region" insert - - by doping an area of the pillar--, and in line 10 after "device" insert- - comprising an inductor--.

In claim 33, line 17 after "created;" insert - -wherein the step of providing an electrical connection between the second lead and second region includes the steps of: providing a conductive element along the second side of the second wafer; placing a first via from the first side of the second wafer to the second side of the second wafer, the first via providing an electrical connection between the second lead and the conductive element; placing a second via from the first side of the second wafer to the second side of the second wafer, the second via providing an electrical connection between the second region and the conductive element--.

Allowable Subject Matter

Claims 1, 4-14, 17-19, 30, 32, 33 and 35 are allowed.

The following is an examiner's statement of reasons for allowance. The prior art discloses forming inductors on a surface of a chip that is electrically connected to a substrate through metallic, pillars that are inwardly spaced from perimeter walls on a chip, and the use of doping of a semiconductor to form contacts as evidenced for example by Hikita (U.S. 4,238,763). However, the prior art fails to disclose or make obvious to one of ordinary skill in the art a method for attaching wafers wherein one wafer includes pits and semiconductor pillars that are doped and over inductors spaced inward from the perimeter wall of the pit including all the limitations of the independent claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jmm, J.D
August 1, 2006

